

Review of Visual Aids for Prosthetics and Orthotics

PROSTHETICS (GENERAL)

"A Day in the Life of the Amputee," Hosmer-Dorrance, 1955, 26 min., color, silent, 16 mm.

Summary: Presents a bilateral upper-extremity amputee as he performs a number of activities related to self-care, work, and recreation. These include fishing, bowling, gardening, dressing, eating, playing pool, driving a car, and lighting a cigarette.

Evaluation: A technically well-executed film of a man who has acquired unusual skill in the use of the prostheses. It is recommended for upper-extremity amputees and for professional groups who wish to become familiar with the potential accomplishments of this type of amputee. Essentially, its purpose appears to be to encourage upper-extremity amputees to use prostheses and to develop maximal skill in their use.

Distributor: A. J. Hosmer Corporation, P. O. Box 37, Campbell, Calif. 95008.

¹ This review was compiled by an *ad hoc* committee appointed by the Subcommittee on Prosthetics in Paramedical Education of the Committee on Prosthetic-Orthotic Education. Chairman of the *ad hoc* committee was Mrs. Florence S. Linduff until her appointment as Consultant, Physical Therapy, Division of Training, Vocational Rehabilitation Administration, Washington, D. C. Members are Miss Nancy Ellis, Associate Director, Occupational Therapy Courses, College of Physicians and Surgeons, Columbia University, New York, N. Y.; Miss Jamie Lisle, Director of Physical Therapy, Medical College of Virginia, Richmond, Va.; Miss Lena M. Plaisted, Professor of Rehabilitation Nursing, Boston University School of Nursing, 264 Bay State Rd., Boston, Mass.; Miss Mary Poole, Director, Department of Social Work, University of Pennsylvania Hospital, Philadelphia, Pa.; and Colonel Ruth A. Robinson, Army Medical Specialist Corps, U. S. Army (Ret.), 1325A Worcester Rd., Framingham, Mass. (*ex-officio* member).

The Committee on Prosthetic-Orthotic Education is supported by the Training Division of the Vocational Rehabilitation Administration and by the Prosthetic and Sensory Aid Service of the Veterans Administration.

„A Triple Amputee Steps Out," U.S. Veterans Administration, 1964, 25 min., color, sound, 16 mm.

Summary: Shows the rehabilitation of a male adult with an above-knee amputation on one side, a below-knee amputation on the other, and a unilateral above-elbow amputation. The patient also suffers from heart and kidney complications that add to the difficulty of rehabilitation. Preprosthetic exercises and balancing activities are followed by ambulation with stubbies and, finally, with permanent prostheses and crutches.

Evaluation: The level of rehabilitation for this severely involved patient appears unrealistic; and, although he finally ambulates, the gait is labored and unsteady. Use of the upper-extremity prosthesis, which would seem a more useful activity for this patient, is not discussed. This film has little place in paramedical teaching and would be of interest only to note the accomplishments of this unusual and highly motivated amputee.

Distributor: Central Office Film Library, Veterans Administration, Vermont Ave. and H St., N.W., Washington, D.C. 20420.

"Diary of a Sergeant," U.S. War Department, 1945, 22 min., black and white, sound, 16 mm.

Summary: The story of a soldier (Harold Russell) who, having lost both arms during World War II, wages a determined and successful fight to achieve success in the use of artificial limbs and to establish himself as a useful member of society.

Evaluation: An excellent film for its era. It has lost much of its value, however, through the passage of time and today is primarily of historical interest. It deals with the emotional trauma involved in loss of arms and portrays the courage required by an amputee to achieve his rehabilitation goals. For these reasons, the film may still serve a purpose when used to

motivate discouraged upper-extremity amputees or when shown to groups concerned with the emotional impact caused by crippling disease or injury.

Distributor: Central Office Film Library, Veterans Administration, Vermont Ave. and H St., N.W., Washington, D.C. 20420.

"Dynamic Exercises for Lower-Extremity Amputees," U.S. Veterans Administration, 1959, 10 min., color, sound, 16 mm.

Summary: Reviews normal gait and the relationships of body segments during walking. Following the physician's examination of the above-knee stump, the amputee patient demonstrates a series of dynamic exercises to develop balance, coordination, and strength. These exercises are part of a physical-therapy program that prepares the amputee to meet daily functional demands. Several amputee gaits are demonstrated.

Evaluation: This is a large order for a ten-minute film, particularly since it goes beyond the scope of the title. The exercises *per se* are excellent, but the rate at which they are presented limits the use of the film as a teaching device. A patient-to-patient type of teaching contributes to some worthwhile scenes. The film is considered useful for those who are previously oriented in the techniques of dynamic exercises and who are experienced in working with amputees.

Distributor: Central Office Film Library, Veterans Administration, Vermont Ave. and H St., N.W., Washington, D.C. 20420.

"Gait Analysis," Northwestern University Medical School, 1961, 27 min., color, sound, 16 mm}

Summary: Demonstrates the most common gait defects that may be seen in an above-knee amputee, including circumduction, abduction,

² Enhancing the value of this film and intended to be used in conjunction with it are 16 loop films, each of which depicts one gait deviation. These loops are 7 ft. in length and can be rerun an indefinite number of times on standard projectors. The set may be purchased for \$25.00. When the film is ordered, a check in this amount should be made payable to the distributor: Ideal Picture Co., 417 North State St., Chicago, Ill. 60610.

vaulting, medial and lateral whips, instability of the knee, long prosthetic step, and others. The defects are shown on a subject wearing an adjustable above-knee prosthesis and are described in detail, then discussed as to possible causes, considering the amputee, the stump, and the prosthesis. Demonstrates a normal gait so that comparison between normal and abnormal gait can be made. The narration is conducted by a physician, a prosthetist, and a physical therapist, all faculty members of the Prosthetic-Orthotic Education Program at Northwestern University Medical School. A pocket-size folder that summarizes the material presented has been prepared for use as a hand-out at showings.

Evaluation: This is a valuable teaching film. Ample time is allowed for the viewer to observe each gait deviation, making it possible for him to correlate the movie sequence with the material presented in the booklet that accompanies the film. Recommended for all medical groups concerned with the management of the lower-extremity amputee, including physicians, physical and occupational therapists, nurses, and prosthetists, at both the student and the graduate levels. The amputee patient would also benefit from seeing this film.

Distributor: American Academy of Orthopaedic Surgeons, 29 East Madison St., Chicago, Ill. 60602.

Rental Fee: \$3.00.

"New Geriatric Prostheses Adaptable to Bilateral Amputees," Waterbury Hospital, Waterbury, Conn., 1964, 10 min., color, silent, 16 mm.

Summary: Describes an above-knee prosthesis designed for use by the geriatric patient and points out the advantages of certain modifications over the more conventional "temporary" prosthesis. Demonstrates the use of these prostheses as fitted to a bilateral amputee, a 64-year-old woman.

Evaluation: This film would be of interest only to those who are dealing with the problems of prescribing, designing, or fabricating prostheses for the geriatric patient. The graphic description of the prosthesis is well presented.

Distributor: Dr. Sung J. Liao, Director, Department of Physical Medicine and Rehabilitation, Waterbury Hospital, Waterbury, Conn.

"New Legs," National Council for Care of Cripples, South Africa, 1960, 18 min., color, sound, 16 mm.

Summary: Presents the case history of a young railway plate-layer who suffered an accident that ultimately resulted in a bilateral hip disarticulation. He is fitted with a pair of prostheses that incorporate double-action hip joints. Following a training program, he is shown walking with prostheses and crutches and participating in many physical activities with and without the prostheses.

Evaluation: The purpose of this film is to encourage people living in South Africa to support rehabilitation through the purchase of Easter Seal stamps. Perhaps this accounts for the optimistic tone of this technically excellent picture. The amputee is unusually cheerful, physically agile, and well motivated, and his well-planned rehabilitation program is highly successful. This film might be of interest to the patient and family. For paramedical groups it is of interest only to show the potential achievement of one amputee with a bilateral hip disarticulation.

Distributor: Film Library, International Society for Rehabilitation of the Disabled, 219 East 44th St., New York, N. Y. 10017.

Rental Fee: \$10.00. (No rental fee for members in good standing with the International Society.)

"Normal Human Locomotion," University of California at Los Angeles, 1965, 3 hr., black and white, sound, 16 mm.

Summary: This seven-reel film reproduces a classroom lecture as presented by Cameron B. Hall, M.D., in the UCLA courses in lower-extremity prosthetics. In his presentation, Dr. Hall graphically describes the normal pattern of human locomotion and explains it in terms of pertinent basic principles, including determinants of gait and mechanical forces. The film is printed at a contrast level that

permits it to be shown in a partially lighted room, thereby allowing viewers to write on the illustrated lesson sheets provided with the film.

Evaluation: The film is of special value. It encompasses a difficult subject on the basis of research from voluminous literature, and it is organized in a clear, concise, and understandable manner.

No attempt is made to achieve a technically perfect film; it comes "as is" from the classroom. Dr. Hall's teaching methods, which include skillful execution of illustrations, a keen sense of timing, and—most important—a sequential, organized presentation of materials, combine to make this film an excellent teaching device for both students and instructors.

The film is highly recommended for any professional person engaged in gait training or concerned with any aspect of human locomotion. Its use in undergraduate programs will vary according to the teaching talents of the faculty members and the curriculum content. If the length precludes showing it in one session, it can be shown in two or three sessions. It is recommended that instructors review the film in order to strengthen their own teaching methods and to determine in what way it can supplement or reinforce instruction in their own particular situation.

Distributor: American Academy of Orthopaedic Surgeons, 29 East Madison St., Chicago, Ill. 60602.

Rental Fee: \$3.00. (The film may be retained by the borrower for a maximum time of two weeks. Requests for the film should indicate the number of lesson sheets desired.)

"One Step at a Time," Rehabilitation Institute of Montreal, 1963, 15 min., black and white, sound, 16 mm.

Summary: Portrays a unilateral above-knee amputee who is first seen walking with crutches but without an artificial limb. After considerable introspection, this young male decides to be prosthetically fitted. As the story unfolds, it depicts his reaction to the various steps in the rehabilitation program. The three key people responsible for the program—the physician, the physical therapist, and the

prosthetist—are presented, and their roles are briefly explained. The prosthetist plays the major role in this film.

Evaluation: The close-ups, the music, and the general tone of this picture are designed to show the emotional impact on the amputee of the various situations that evolve during the rehabilitation process. The movie is photographically artistic and technically good. Its use to professional people is limited, however, because of the superficial manner in which the material is handled. It appears to be directed toward the layman and especially toward the unfitted amputee.

Distributor: National Film Board of Canada, 690 Fifth Ave., New York, N. Y. 10019.

Purchase Cost: \$75.00. (Available for review if viewer is interested in purchasing the film.)

"Physical Therapy Management of a Bilateral Lower-Extremity Amputee," U.S. Army, (PMF 5382), 1964, 32 min., color, sound, 16 mm.

Summary: Illustrates the progression of physical-therapy procedures in the management of the amputee, following the program from the day preprosthetic stump exercises are initiated until the time skillful use of the prostheses is achieved and the amputee—a military officer—is returned to duty as an instructor. The various procedures include bandaging of the above-knee and below-knee stump, joint measurement, stump exercises, stump hygiene, care of the suction socket, body-strengthening and balancing exercises, gait training and analysis, and advanced functional activities. Also, briefly presented are the principles involved in fitting two types of prostheses, the suction socket and the patellar-tendon-bearing socket.

Evaluation: The film is technically superior and professionally sound. Of particular interest and worthy of mention are the well-presented progression of exercises, the clear graphic descriptions, the inclusion of training with the patellar-tendon-bearing prosthesis, and the portrayal of the exacting self-discipline required by the patient.

Although the rehabilitation team is acknowledged, the film is presented entirely from the

physical therapist's point of view. Because of the extensive amount of material in this film, its primary value lies in an orientation to a good physical-therapy program rather than its use in teaching skills. It is recommended for viewing by physical therapists and students, and also by any of the allied medical professions who have an interest in the management of the amputee. New amputees would also appreciate this preview of the treatment program.

Distributor: Requests for Army Medical Service motion pictures should be directed to the Commanding General, Attn.: Audio-Visual Communication Center, of the Army Area in which the requesting individual or institution is located, as follows: First U.S. Army, Governors Island, N. Y. (includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont); Second U.S. Army, Fort George Meade, Md. (includes Delaware, Kentucky, Maryland, Ohio, Pennsylvania, Virginia, and West Virginia); Third U.S. Army, Atlanta, Ga. (includes Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee); Fourth U.S. Army, Fort Sam Houston, Tex. (includes Arkansas, Louisiana, New Mexico, Oklahoma, and Texas); Fifth U.S. Army, 1660 East Hyde Park Blvd., Chicago, Ill. (includes Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming); Sixth U.S. Army, Presidio of San Francisco, Calif. (includes Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, and Washington).

"Some Biomechanical Methods for Evaluating Activities," VA Prosthetics Center, 1956, 18 min., color, magnetic sound (requires special projector), 16 mm.

Summary: Shows some of the biomechanical methods used in the laboratory to measure the effectiveness with which both normal and handicapped people can perform various activities. Various photographic, mechanical, and electrical techniques are demonstrated.

Evaluation: This interesting film deals with research methodology and is, therefore, of interest primarily to individuals engaged or interested in research.

Distributor: Research and Development Division, Prosthetic and Sensory Aids Service, Veterans Administration, 252 Seventh Ave., New York, N. Y. 10001.

"Suction Socket Artificial Limb," U. S. Veterans Administration, 1951, 24 min., color, sound, 16 mm.

Summary: Describes the suction-socket prosthesis in terms of the anatomical principles involved in its fabrication and fitting. Presents the indications and contraindications for its prescription, emphasizing the importance of the emotional maturity of the patient. Demonstrates briefly gait abnormalities and training. Also illustrates check-out procedures.

Evaluation: Although made in 1951, this excellent film is valuable in its presentation of a type of above-knee prosthesis that continues to be widely used. This film is of greatest value to physicians, prosthetists, and physical therapists, both staff and students. As background information, it could be useful for anyone concerned with the management of the above-knee amputee.

Distributor: Research and Development Division, Prosthetic and Sensory Aids Service, Veterans Administration, 252 Seventh Ave., New York, N. Y. 10001.

"The Urban Maes Amputation for Peripheral Vascular Disease," U. S. Veterans Administration, 1956, 14 min., color, sound, 16 mm.

Summary: Demonstrates the Urban Maes operative technique of below-knee amputation in a patient with disease of compromised circulations. Shows the healed stump and joint range of motion some weeks later. Also presented are several other patients whose treatment management is similar. Several views of stumps are shown, and the patients are seen ambulating on a temporary pylon as well as on the permanent prosthesis.

Evaluation: Primarily of value to physicians. Because of its relative simplicity, however, the film would be a good selection to illustrate a

well-defined surgical procedure to individuals who have not observed actual surgery.

Distributor: Central Office Film Library, Veterans Administration, Vermont Ave. and H St., N.W., Washington, D.C. 20420.

"Total Rehabilitation of a Bilateral High Upper-Extremity Amputee" U. S. Veterans Administration, 1959, 30 min., color, sound, 16 mm.

Summary: Stresses the roles of all members of the rehabilitation team in the management of this amputee. Illustrates the team approach in establishment of the program—examination and supervision by the physician; preprosthetic preparation of the stump and an exercise program by the physical therapist; prosthetic training by the occupational therapist; and vocational guidance by the counselor. Most of the time in this film is devoted to occupational therapy, and the amputee is shown in several learning situations involving functional activities.

Evaluation: The scenes that show how the patient encounters difficulty in performing normally simple chores and how the patient and the therapist work together to find an efficient method of performance are well presented. Although the film does not attempt to present a step-by-step prosthetic training program, the omission of any reference to solving toilet problems, a real concern with this type of amputee, is unfortunate. The team approach is somewhat overemphasized in the film, particularly insofar as the meetings are concerned. This film has teaching value for occupational therapy students and for occupational therapists who have had limited experience in working with patients with upper-extremity amputations. It may also be useful as an orientation for any paramedical group whose members are concerned with the management of the high upper-extremity amputee.

Distributor: Central Office Film Library, Veterans Administration, Vermont Ave. and H St., N.W., Washington, D. C, 20420.

"Upper-Extremity Prosthetics," U. S. Veterans Administration, 1952, 23 min., color, sound, 16 mm.

Summary: Presents two veterans, both of whom are upper-extremity amputees. One

wears his prosthesis successfully; the other keeps his device in his desk. The film explains the dynamics leading to this difference. The successful patient is portrayed as the recipient of services offered in a well-planned amputee management program. The absence of such a program, together with other deterrent factors, is presented as the cause for the second patient's rejection of his original prosthesis. A program designed to correct his reluctance to wear the prosthesis is outlined.

Evaluation: This film succeeds in achieving its objectives, as it clearly demonstrates the importance of good technical and psychological management of the amputee patient. It is not recommended as a teaching film, for it is lacking in its portrayal of the ideal training program. It is recommended as a general type film for paramedical groups and for patients who might be resistant to the intensive effort needed to obtain maximal use of the prosthesis.

Distributor: Central Office Film Library, Veterans Administration, Vermont Ave. and H St., N.W., Washington, D. C. 20420.

"Upper-Extremity Prosthetic Principles," U. S. Veterans Administration, 1955, 29 min., color, sound, 16 mm.

Summary: Demonstrates several interesting activities that were part of a research program aimed at improving upper-extremity prosthetic devices. Of special interest are the demonstration of normal movements of the human hand in a variety of grasping and gripping activities, an analysis of lost movements at various levels of upper-extremity amputation, and the types of upper-extremity prostheses appropriate for specific levels of amputation.

Evaluation: As far as paramedical groups are concerned, this film is of interest to those who would like to be better informed about the development of prosthetic devices. It could be used to illustrate components of prostheses when these are not available, although it should be remembered that only those prosthetic devices in use prior to 1955 are included.

Distributor: Central Office Film Library, Veterans Administration, Vermont Ave. and H St., N.W., Washington, D. C. 20420.

CHILD PROSTHETICS

"Adaptation of Children to Prosthetic Limbs," Michigan Crippled Children Commission, 1960, 20 min., color, optical and magnetic sound, 16 mm.

Summary: Presents five children, including upper- and lower-extremity amputees, each of whom demonstrates a wide range of physical activities while wearing his prosthesis. The disability of the child and the indicated prosthetic fitting are also presented.

Evaluation: This film demonstrates well how the artificial limb becomes an integral part of the body image at an early age. The remarkable skill and agility with which these children perform various physical activities are impressive. Some scenes are unnecessarily prolonged and repetitious. The technical quality of the film is not good, and prosthetically it is primarily of historical interest. Of possible interest to parents in demonstrating potential achievement.

Distributor: Michigan Crippled Children Commission, The Area Child Amputee Program, 920 Cherry St., S.E., Grand Rapids, Mich. 49506.

"Child Upper-Extremity Amputee," University of Michigan Medical Center, 1964, 19 min., color, sound, 16 mm.

Summary: Presents ten child amputees and portrays their accomplishments in use of an upper-extremity prosthesis at specified ages, covering a span of several years in some instances. The x-rays of the involved extremities are shown, and a pictorial description of the amputation or limb deficiency is given. In cases of congenital amputees, diagnoses are given in terms of roentgenographical appearance. The type of prosthesis prescribed for each child and the changes necessitated by his growth and development are shown.

Evaluation: A well-presented, informative film that graphically portrays the accomplishments that may be expected of the child amputee who has the advantage of an early treatment program. It points out clearly the disadvantage to the child when prosthetic fitting is delayed. An orientation film of a specialized nature, it should be of interest to any

professional person involved in the care of the child amputee. Parents of child amputees could also benefit by seeing this film. It is recommended for public health nurses who are in a position to refer the young amputee to the amputee clinic.

Distributor: Audio-Visual Education Center, University of Michigan, Frieze Building, 720 East Huron St., Ann Arbor, Mich. 48104.

"Child Prosthetics Project: A Report," University of California at Los Angeles, 1958, 22 min., color, sound, 16 mm.

Summary: Explains the role of each member of a large prosthetics team, which includes the family physician, pediatrician, orthopaedic surgeon, social worker, psychologist, engineer, prosthetist, physical therapist, occupational therapist, and project administrator. Portrays proceedings of a prosthetics conference, during which the patient and parent are presented. The contributions of the social worker, the psychologist, and the engineer are emphasized. At the conclusion of the film, it is explained that one of the principal purposes of the team is to collect research data with a view toward improving training and prosthetic devices and procedures.

Evaluation: At the time the film was made, it undoubtedly served the purpose of showing the UCLA program as well as presenting the concepts of the prosthetics team and the early fitting of the child amputee. Although it might be of some value in demonstrating a research approach, its outdated quality relegates it, for the most part, to the category of "historical interest."

Distributor: Paul L. Brand and Son, 2153 K St., X.W., Washington, D. C. 20001.

Rental Fee: \$7.60 plus shipping charges.

"Early Development of Ambulation—Unilateral Below-Knee Amputee," University of California at Los Angeles, 1965, 18 min., black and white, sound, 16 mm.

Summary: Depicts the progress of the child amputee from the time he attempts to stand until he walks independently with the prosthesis, which has become an integral part of his body image. Shown are the changing patterns of rhythm, the gradual narrowing of the

base of support, and the increasing stability as motor-kinesthetic development takes place and the child participates in increasingly complex skills and play activities.

Evaluation: Presents well the concept of early fitting, as the child is shown wearing and using the prosthesis as effectively as a normal leg. The film should be shown in conjunction with *Infant to School-Age Child—Unilateral Below-Elbow Amputee*.

Distributors: Child Amputee Prosthetics Project, UCLA Rehabilitation Center, 1000 Veteran Ave., Los Angeles, Calif. 90024. Also available for loan from the crippled children's services in all 50 states and in the District of Columbia, the Virgin Islands, Puerto Rico, and Guam through funds supplied by the Children's Bureau, Department of Health, Education, and Welfare.

"Infant to School-Age Child—Unilateral Below-Elbow Amputee," University of California at Los Angeles, 1964, 10 min., black and white, sound, 16 mm.

Summary: Presents the various stages in the motor-kinesthetic development of the child and relates them to the specific times at which the child amputee is ready for initial prosthetic fitting as well as for increasingly complex devices. As skills and physical activities develop in response to demands of daily living, devices are provided that are appropriate to the level of function. The cooperation of the parents in the teaching process is stressed.

Evaluation: The concept of fitting the child amputee with the appropriate device at a specific time in his motor-kinesthetic development is well presented. The film has value, not only in demonstrating the progress of the child amputee, but also in teaching the basic principles of growth and development in the young child. Although the film is specialized in nature, it is recommended for undergraduate students in paramedical fields to present the principles of growth and development. It is highly recommended for professional groups working with child amputees. It should be shown in conjunction with the film *Early Development of Ambulation—Unilateral Below-Knee Amputee*.

Distributor: Child Amputee Prosthetics Project, UCLA Rehabilitation Center, 1000

Veteran Ave., Los Angeles, Calif. 90024. Also available for loan from the crippled children's services in all 50 states and in the District of Columbia, the Virgin Islands, Puerto Rico, and Guam through funds supplied by the Children's Bureau, Department of Health, Education, and Welfare.

"Juvenile Amputee with Congenital Skeletal Limb Deficiencies," Tulane University School of Medicine, 1964, 20 min., color, sound, 16 mm.

Summary: Presents ten patients treated at a child-amputee clinic. As each case is presented, the limb deficiency is described on the screen in the terminology of the recently developed roentgenographic classification. The deficiency is further described by x-ray plates and by pictures of the child before surgical procedures. Scenes filmed at a later date show the patient wearing and using a prosthesis fitted to the surgically revised limb. The history of the child is outlined rather fully and, in some instances, the history is pictorially depicted at intervals over a number of years.

Evaluation: This film would be helpful in reinforcing use of the classification of limb deficiencies as developed by O'Rahilly and Frantz. The results obtained in fitting severely involved children are impressive. The information presented is too extensive for the time allotted, making it difficult to stay with the narrator and detracting from the technical quality of the film. This film is recommended for professional groups interested in orientation to this particular type of patient and program. It could also benefit parents of the congenital child amputee.

Distributor: American Academy of Orthopaedic Surgeons, 29 East Madison St., Chicago, Ill. 60602.

Rental Fee: \$3.00.

"Lower-Extremity Amputees—Toddlers," Michigan Crippled Children Commission, 1957, 22 min., color, magnetic sound (requires special projector), 16 mm.

Summary: Presents briefly the motor development of the child as it relates to the upright position and ambulatory progress. Describes anomalies and stumps, both pic-

torially and roentgenographically. Discusses the prosthetic fitting and the child's ambulatory program. Changes in gait patterns over a number of years are demonstrated.

Evaluation: The development of the gait pattern over the years is especially interesting. Because of advances in design, fabrication, and the fitting of prostheses since the film was made, it has outlived its period of optimal value.

Distributor: Michigan Crippled Children Commission, The Area Child Amputee Program, 920 Cherry St., S.E., Grand Rapids, Mich. 49506.

"Prosthetic Training of the Very Young Child Amputee—Upper Extremity," Michigan Crippled Children Commission, 1959, 20 min., color, optical and magnetic sound, 16 mm.

Summary: Demonstrates the training technique used in teaching three upper-extremity child amputees to use their prostheses. It shows a child-sized APRL hand that was in the experimental stage at that time.

Evaluation: This film shows good beginning training technique, outlining three different areas of training—basic body-control motions, development of prosthetic control, and functional prosthetic use. The training situations shift abruptly, causing the film to lose continuity. Technically, it is not a high-quality film. Occupational therapists might find this film of value because some of the techniques of training are still acceptable, although the prostheses are outdated.

Distributor: Michigan Crippled Children Commission, The Area Child Amputee Program, 920 Cherry St., S.E., Grand Rapids, Mich. 49506.

"Upper-Extremity Amputees—Toddlers," Michigan Crippled Children Commission, 1956, 22 min., color, magnetic sound (requires special projector), 16 mm.

Summary: Presents type, diagnosis, and prosthetic fitting of several upper-extremity child amputees. Demonstrates the performance of skills and activities while wearing the prosthesis.

Evaluation: This film, made at the Mary Free Bed Guild Children's Hospital in Grand

Rapids during the earlier years of the child-amputee program, serves to demonstrate how readily children adapt to early prosthetic fitting. Advancements in the prosthetic field, however, cause the film to be outdated. It should be noted that the sound, which is magnetic, is cut off for about the last ten minutes.

Distributor: Michigan Crippled Children Commission, The Area Child Amputee Program, 920 Cherry St., S.E., Grand Rapids, Mich. 49506.

ORTHOTICS

"Assistive Devices for the Physically Handicapped," National Foundation for Infantile Paralysis, 1957, 12 min., sound, color, 16 mm.

Summary: Illustrates many assistive devices and their use by postpoliomyelitis patients. The devices include mouth sticks, overhead slings, feeders of various types, automatic page turners, hydraulic lifts, and several others.

Evaluation: This very comprehensive film is useful to show the kinds of devices used to increase the functional capacity of the post-poliomyelitis patient with severe residual paralysis. Credit is due those whose ingenuity resulted in the improvised equipment demonstrated here. While the film is photographically excellent, its content in terms of emphasis on certain devices, such as the mouth stick, is questionable. The film, made prior to the poliomyelitis vaccines, is necessarily outdated in some aspects, but the devices shown would still be of interest to personnel working with the severely disabled.

Distributor: Film Library, International Society for Rehabilitation of the Disabled, 219 East 44th St., New York, N. Y. 10017.

Rental Fee: \$10.00. (No rental fee for members in good standing with the International Society.)

"Kinetics and Orthotics for Function," Institute of Physical Medicine and Rehabilitation, New York University Medical Center, 1963, 25 min., black and white, sound, 16 mm.

Summary: Presents the basic principles in the selection and the use of orthotic devices to achieve as normal function as possible in the presence of upper-extremity weaknesses. The

basic normal motions of the upper extremity in the performance of several everyday activities are carefully depicted. The subject, a quadriplegic patient, is introduced as he is undergoing a manual muscle test. The test, which reveals severe weakness in the musculature of the upper extremities, also serves as a basis for determining the degree and nature of the mechanical assistance required to supplement the existing strength. Periodic evaluations are made; and, as strength increases, the appliances are adjusted or replaced. Finally, the amount of assistance is reduced to the minimum required by the patient, who is shown performing a number of activities. Before discharge from the hospital, the patient is equipped with a flexor-hinge hand and is planning to return to his former occupation.

Evaluation: An excellent analytical presentation of the prescription and use of orthotic devices for severely involved upper-extremity patients. Outstanding in this picture is its adherence to the practice of sound teaching principles. As each new step is presented, the principle underlying the selection of orthotic devices is applied and illustrated. The analysis of normal motion serves as a basic approach to the problem. The film gives a feeling for the long time involved and is realistically hopeful in terms of patient accomplishment. This film is highly recommended for all paramedical groups; for occupational therapists it is of value in teaching specific techniques of training.

Distributor: Film Library, New York University Medical Center, 342 East 26th St., New York, N. Y. 10016.

Rental Fee: \$5.00.

"Spinal Cord Injury" Rancho Los Amigos Hospital, 1961, 25 min., color, sound, 16 mm.

Summary: Depicts eight levels of spinal-cord injury and demonstrates the degree of independence that the average patient can attain after injury. Independence is accomplished through a program of maximum strengthening of the remaining active muscles, combined with appropriate assistive devices, such as short leg braces, long leg braces, overhead slings, artificial muscles, special splints, crutches, hydraulic lifts, etc., and training.

Evaluation: This well-organized film discusses clearly and precisely each level of injury in terms of specific pertinent information, such as key muscle groups involved, functional loss, and orthotic devices. It points out that the prognosis of the patient is not constant with the level of injury, but is based on demonstrable muscle function. Limitations are carefully noted, and goals are realistic. The film is highly recommended for any professional person working with the paraplegic or quadriplegic patient and for inclusion in the undergraduate curriculum for therapists and nurses. Patient and family would benefit from seeing this film, provided they have accepted a realistic attitude toward rehabilitation.

Distributor: American Academy of Orthopaedic Surgeons, 29 East Madison St., Chicago, Ill. 60602.

Rental Fee: \$3.00.

"The Heather Hand," U. S. Veterans Administration, 1960, 10 min., color, silent, 16 mm.

Summary: Describes a light-weight, wrist-extension, hydraulic orthosis. Shows the patient putting it on himself and performing several activities.

Evaluation: Although this film illustrates the device very well and graphically demonstrates its function, it is of practically no value for paramedical groups because it is not accompanied by any explanation, either written or auditory.

Distributor: Research and Development Division, Prosthetic and Sensory Aids Service, Veterans Administration, 252 Seventh Ave., New York, N. Y. 10001.

AMPUTATION SURGERY AND FABRICATION OF PROSTHESES

The compilers of this review did not consider themselves qualified to evaluate films on amputation surgery or the fabrication of prostheses.

Titles of films on surgery may be found in the *Film Reference Guide for Medicine and Allied Sciences*, U. S. Department of Health, Education, and Welfare, Public Health Service, Communicable Disease Center, Atlanta, Ga. 30333.

For those interested, the following films on the fabrication of prostheses are listed.

Available from the Research and Development Division, Prosthetic and Sensory Aids Service, Veterans Administration, 252 Seventh Ave., New York, N. Y. 10001: *Above-Knee Prosthetics—Stump Casting with the Use of a Casting Stand; Below-Knee Prosthetics—Stump Casting with the Use of a Casting Stand; Fabrication Technique for Medial Opening, Polyester Nylon, Syme Prosthesis; Plastic Finishing of an Above-Knee Socket; The Total-Contact, Soft-End, Plastic Laminate Above-Knee Socket.*

Available from Hydra-Cadence, Inc., 623 South Central Ave., P. O. Box 110, Glendale, Calif.: *Hydra-Cadence, Reel 1; Hydra-Cadence, Reel 2.*